

# Exhibit E



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## Criteo Direct Bidder

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BD Training v1

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## Agenda

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1. What is Header Bidding?
2. How does it affect Criteo?
3. Criteo Direct Bidder
  - a. Our 3 solutions
  - b. The value proposition
  - c. Technical details

# 1. What is Header Bidding?

## Header Bidding – big in the news



'The Rise Of 'Header Bidding' and The End of The Publisher Waterfall'

**W EXCHANGEWIRE**

'HEADER BIDDING – Another nail in the second-price coffin'

**BUSINESS INSIDER**

'The ad tech industry is waging a secret war on Google'

**DIGIDAY**

'WTF is header bidding?'

## Header Bidding is.... dangerous

**The Rubicon Project Inc** (NYSE:RUBI)

**7.98** -0.07 (-0.87%)

Real-time: 10:26AM EST  
NYSE real-time data - Disclaimer  
Currency in USD

**verta media** SEARCH powered by Google

**BUSINESS INSIDER UK**

**tech**

**TECH**

**stock is tanking**  
**ump on the header**

**adexchanger**

**TOPICS COMMENTARY**

**Rubicon Project Was Slow Bidding**

by Sarah Sluis // Tu

Share:

Rubicon Project Co

the company was slow to

**Tech Trader Daily**  
News, analysis, and actionable investing ideas.

August 3, 2016, 3:03 P.M. ET

**Rubicon Plunges 33%, Criteo Drops 6% as 'Header Bidding' Dogs Online Ad Market**

Email Print

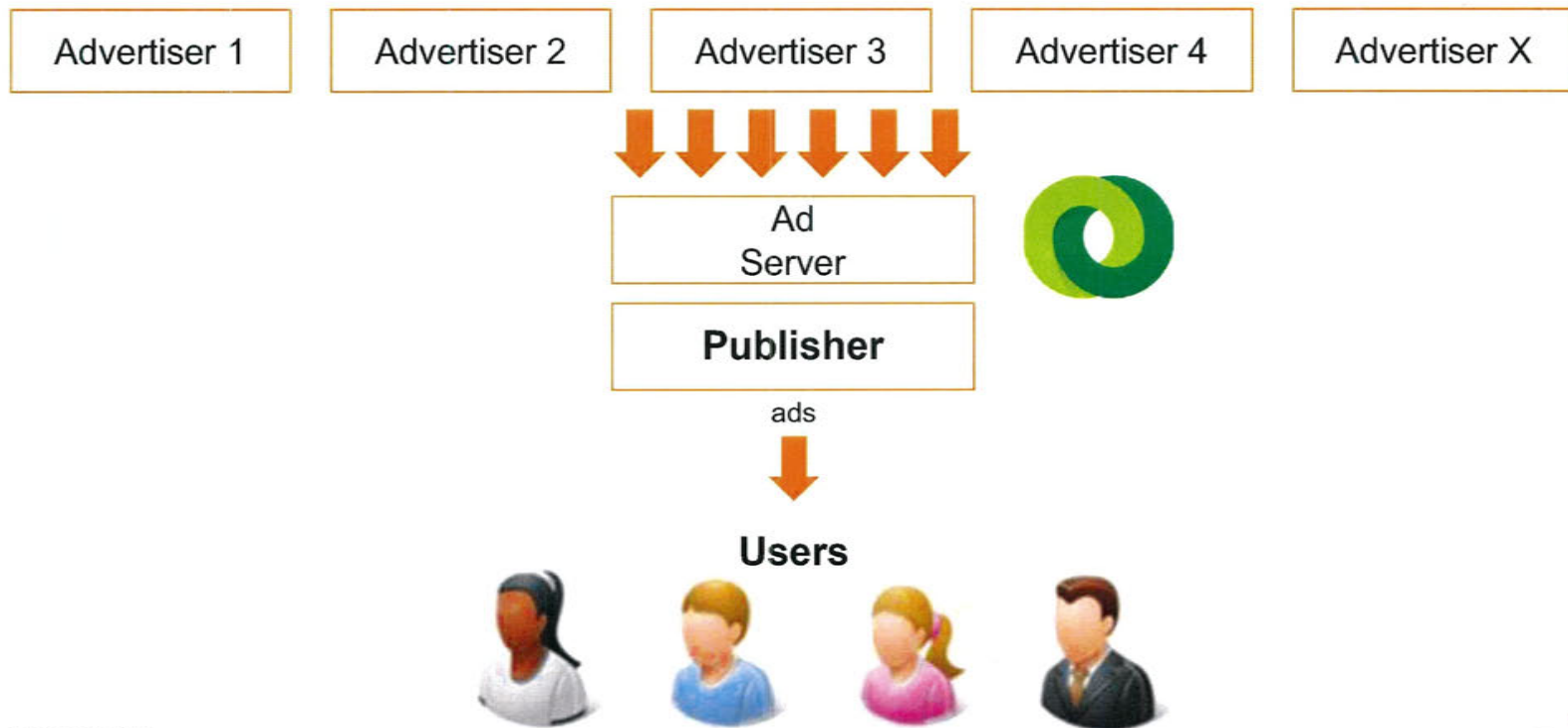
**criteo**

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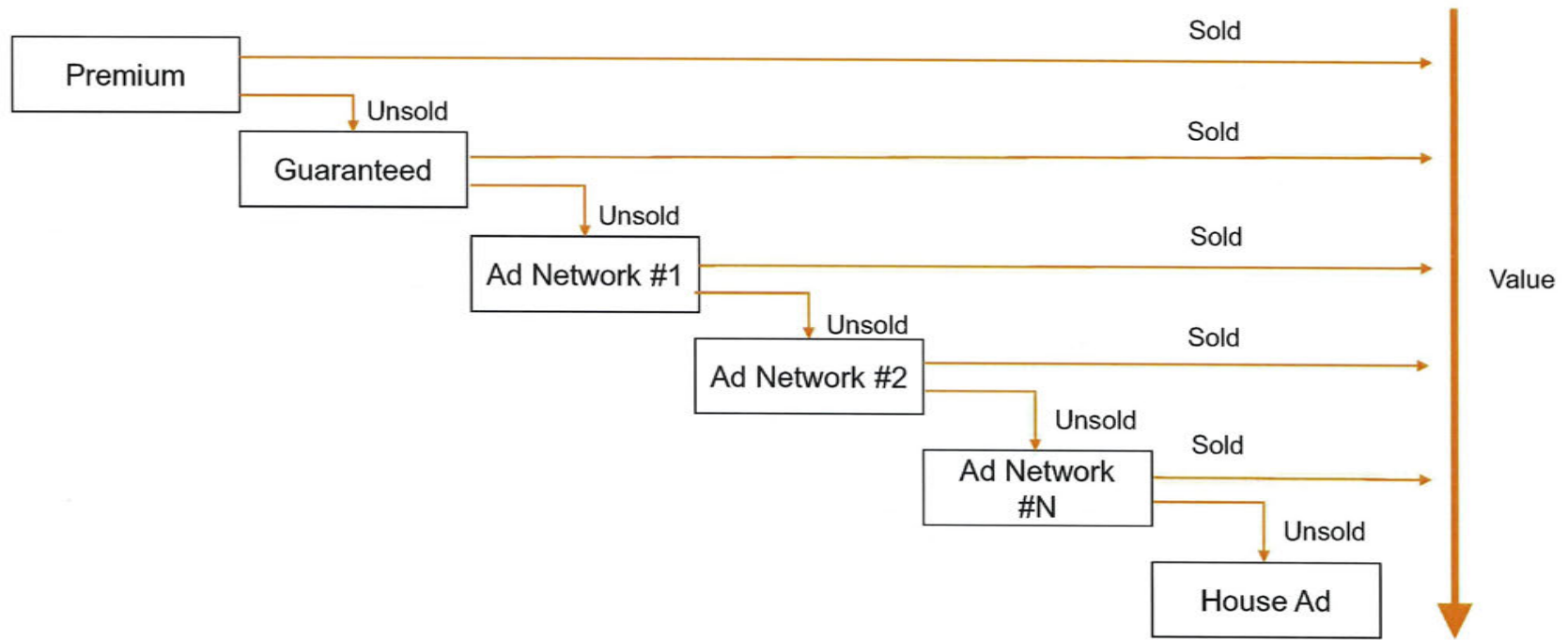
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## First lets look at - Ad servers 101





## The Ad Serving Waterfall



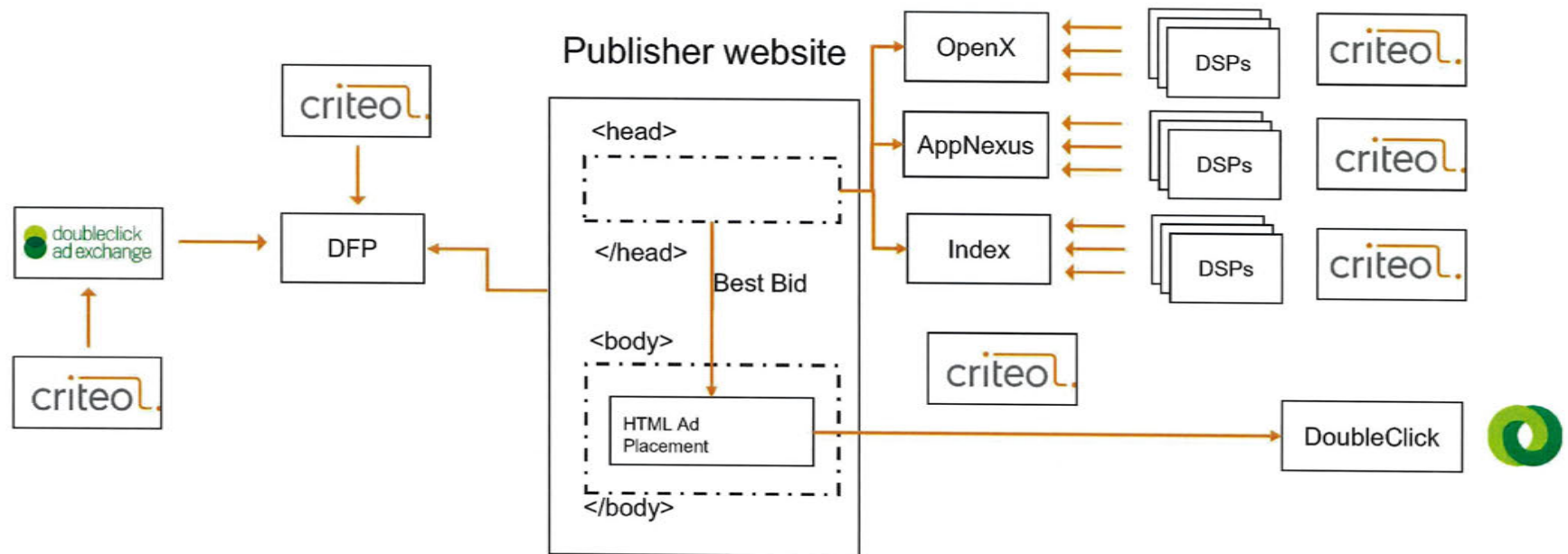


## Problems with the waterfall

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- The waterfall is **extremely inefficient**, making it **difficult to optimise** inventory between different levels
- Sometimes it could make more sense to deliver programmatic ahead of guaranteed if another display opportunity will come
- The waterfall **gives a lot of control to the AdServer** (usually doubleclick)
- Historically, overall yields (average CPMs and fill rates) have dropped, putting **pressure on Publishers**
- **Latency** can end up being significant affecting page load times

## Header Bidding – Today's status

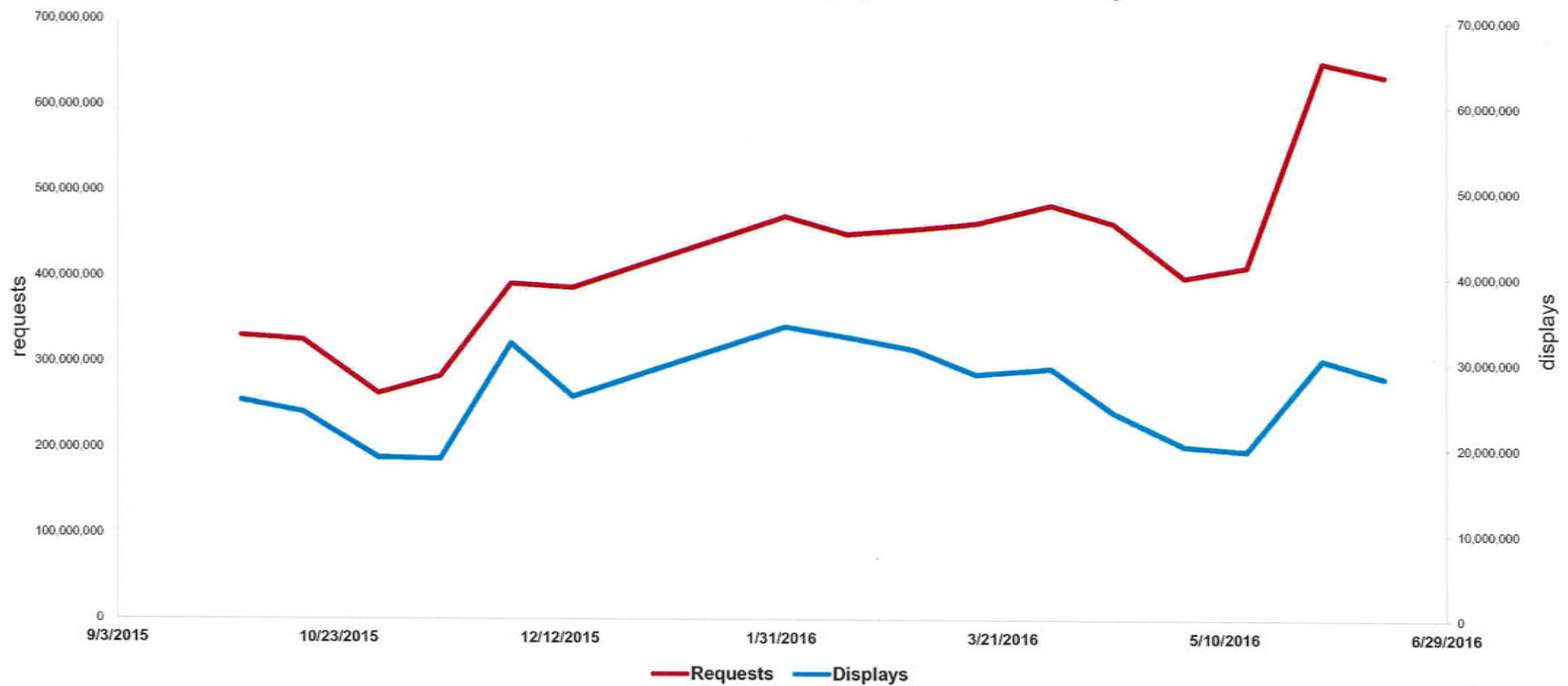


- Currently Criteo ends up **bidding multiple times** for an impression that we can only win once
- We also end up **second pricing ourselves**

## 2. How does Header-Bidding affect Criteo?

## Header Bidding puts a strong pressure on Criteo's Infrastructure...

Worldwide RTB Requests vs Displays evolution - Desktop



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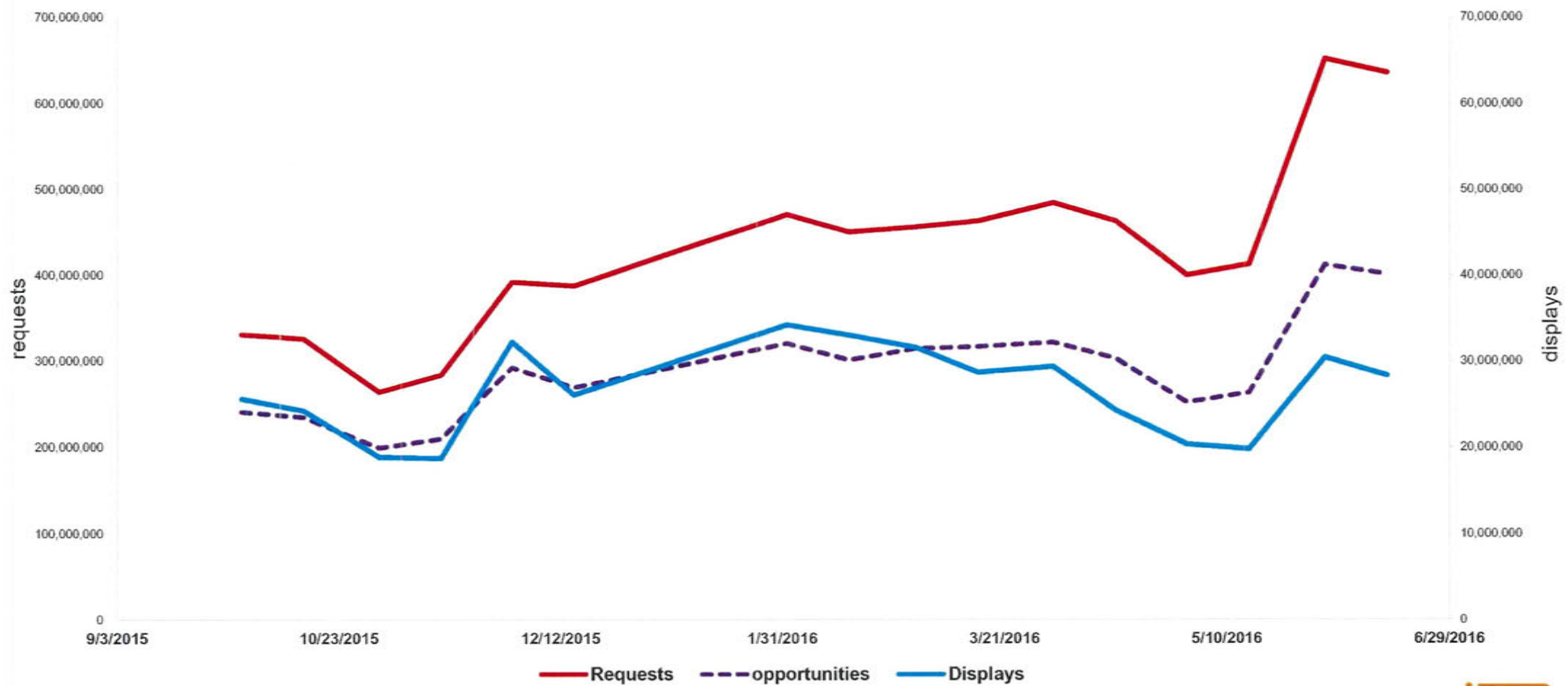
criteo.

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## However the increase of “real” opportunities is actually comparable to display’s

Worldwide RTB Requests vs Displays evolution - Desktop



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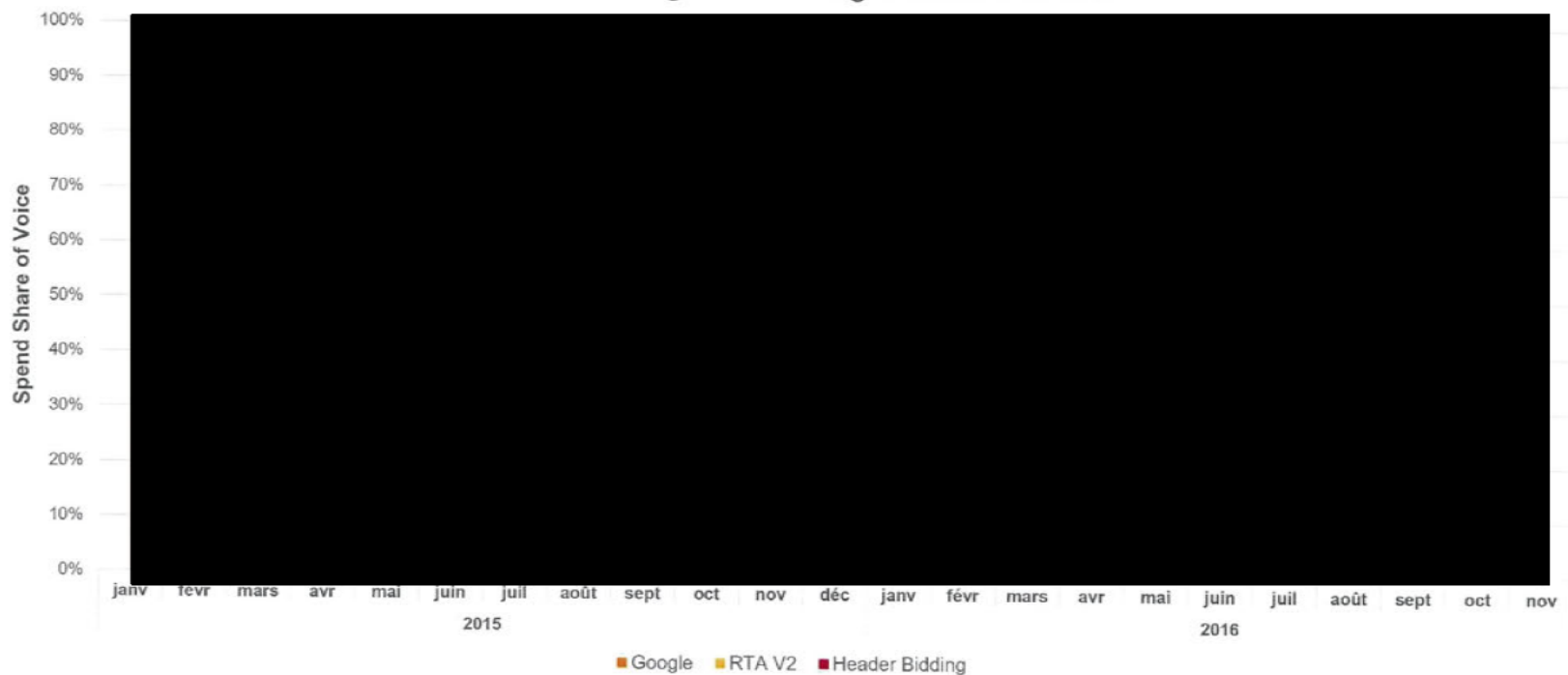


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## ... It kills our Direct Relationships with our top publishers...

Introduction of Header Bidding on Weather.com effectively decreased the importance of RTA and killed our leverage in direct negotiations with them



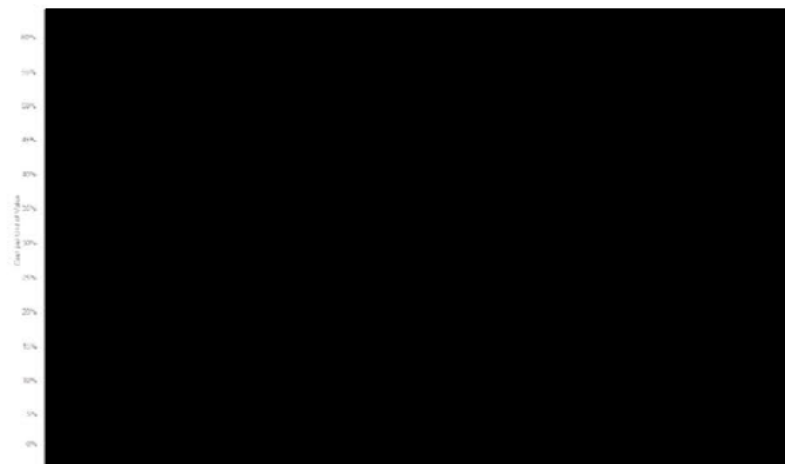
## ...And is harmful to the performance we deliver to our Advertisers!

Value Capture Rate RTB (Jan 16 to May 16)



Our competitiveness remained stable since mid-Jan.

Cost per Unit of Value RTB (Jul 15 to May 16)



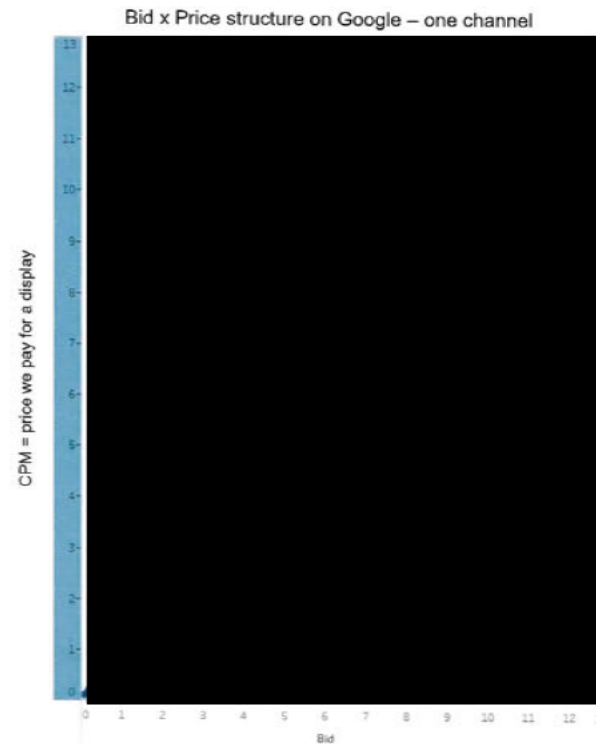
Publishers get more of the value we bid for



## How do we end-up paying more for the same thing?

1) **Header Bidders use First Price auctions,** which are typically more expensive than 2<sup>nd</sup> Price auction when we bid the same thing

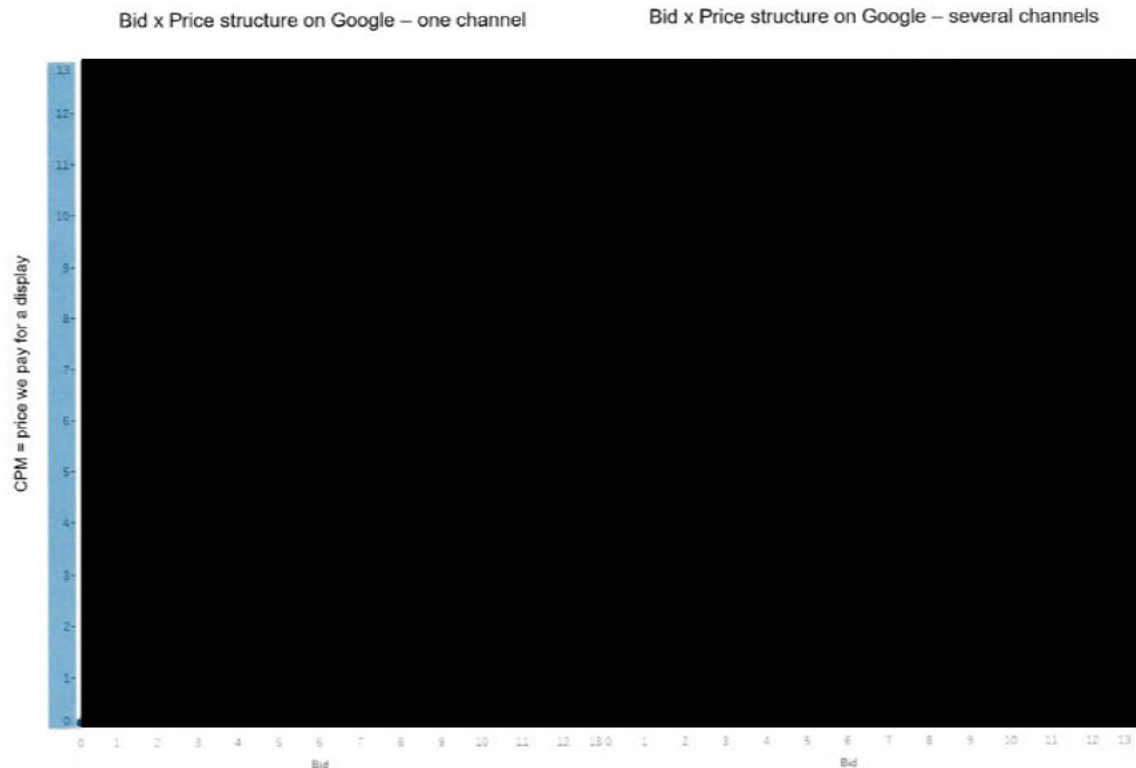
2) For a same display opportunity, all the bids we send through the different channels (RTA, RTBs, HBs) are transformed and mixed together [REDACTED]  
[REDACTED]



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Criteo Direct Bidder

## 3 solutions (for now...)

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### PreBid adapter

- Prebid.js was the 1st header-bidding solution launched on the market by appnexus and is still the most popular
- We tested our adapter on 7 publishers so far

### Index adapter

- Index (casale) jumped into HB with quite some success, especially in north america
- Tests still pending as adapter is still being developed (ETA early february).

### CDB Onpage

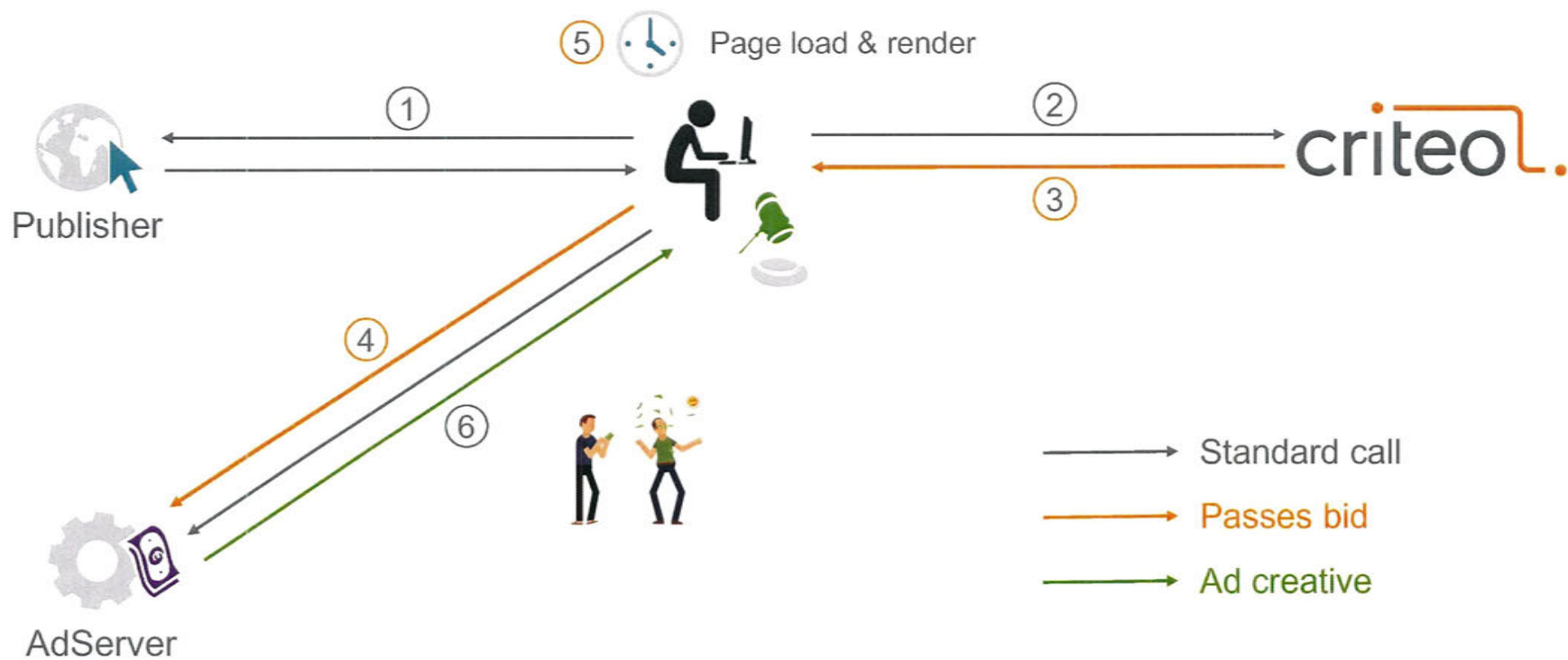
- No intermediary, no wrapper needed. It's RTA on steroid, able to bid and be as efficient as RTB, but directly on the page.

## ClearBid - Value proposition

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- Eliminate third-party fees, hidden costs, and opaque bidding mechanisms for all impressions that Criteo buys direct.
- Efficiently monetize standard display inventory, ad-blocked impressions, and native ad units
- Directly plug the demand of 12,000 advertisers and enjoy an always-on auction liquidity
- Avoid latency with a direct connection into our proven programmatic platform, delivering responses in under 50ms per bid to over 120B requests per day.

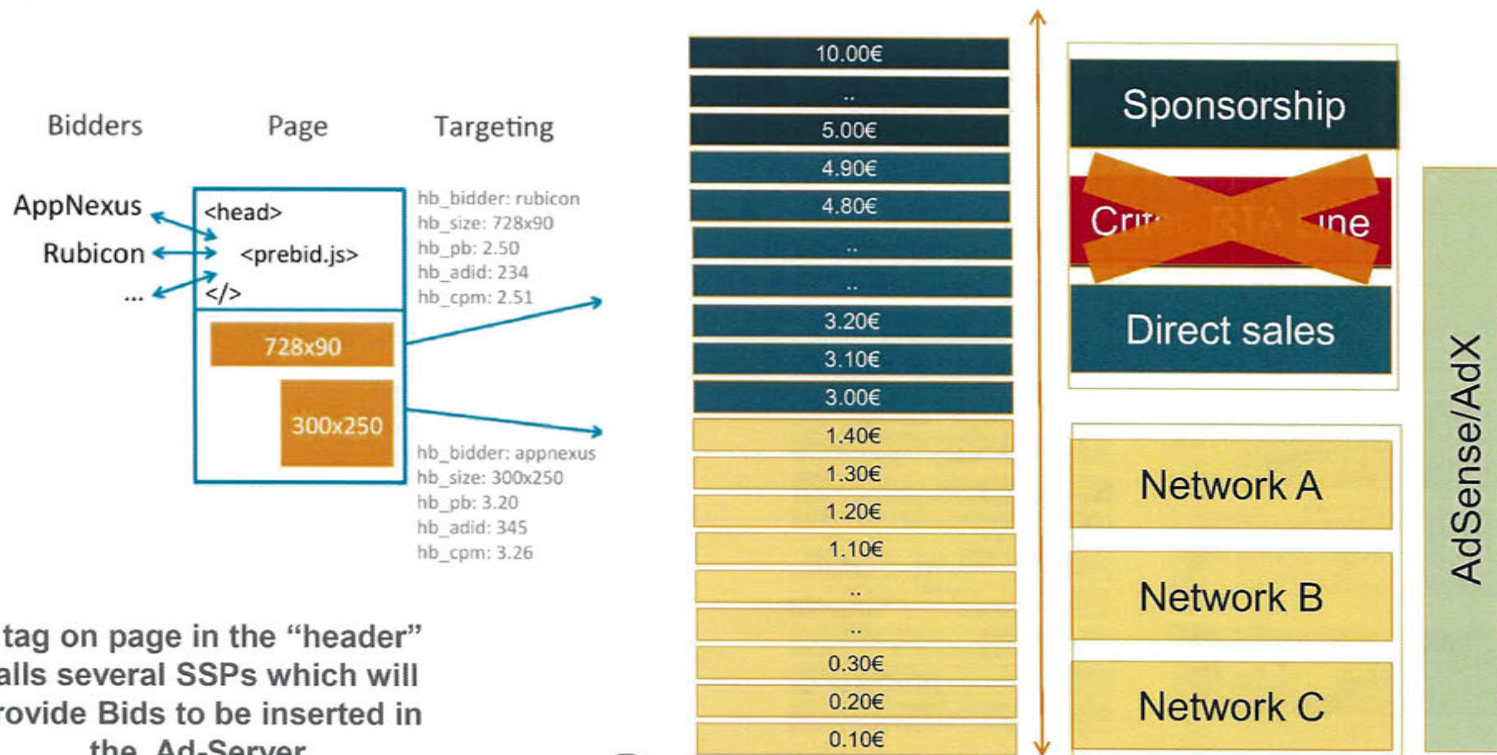
## Setup and technical details





# Header Bidding

Working around the waterfall



**1** A tag on page in the “header” calls several SSPs which will provide Bids to be inserted in the Ad-Server

**2** Tens of “Price Priority” lines are created in the ad-server which allows networks to compete with direct lines.



## Header Bidding

### The line item setup

- **Line items setup is key** for a performing Header-bidding setup
- **You will always pay your bid (1st price auction)** but this bid will be assigned to the next lower price line to compete with the direct campaigns and EDA
- **The more granular** the line item setup is, **the more chance you have to win the auction** in the adserver





## Case studies

## Intermarkets – Incrementality over RTB

Affiliates	Difference (%)	% of CDB value captured	% of CDB's displays realized through another channel
INTERMARKETS - US - CDB	████	██	██
BIDSWITCH - US - RTB - SONOBI	██	██	██
BIDSWITCH - US - RTB - SONOBI - INTERMARKETS	██	██	██
CASALEMEDIA - US - RTB - INTERMARKETS	██	██	██
CASALEMEDIA - US - RTB - RON	██	██	██
GOOGLE - US - RTB - INTERMARKETS	██	██	██
INTERMARKETS - US - ADBLOCKING	██	██	██
RUBICON - US - RTB - INTERMARKETS	██	██	██
TRIPLELIFT - US - RTB - RON	██	██	██
<b>Total</b>	████████	██████	██████

- On Intermarkets, **only half of the value is captured** through another channel when shutting down CDB, mostly on Casale
- Only **██ ██ ███** of the **displays** are realized through another channel when shutting down CDB, mostly on Casale (AB)
- Line items set up** in Prebid are ok and reflected well our bids

## Intermarkets – Incrementality over RTA

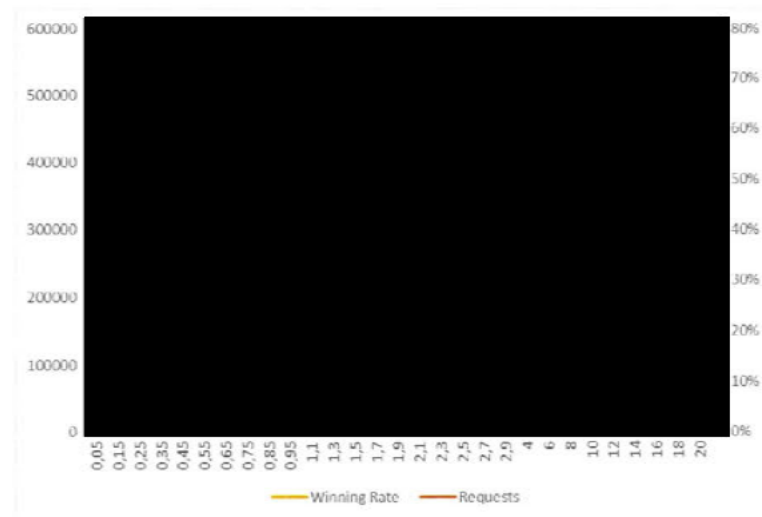


**WebAds – Linkiesta.it**



- Criteo bids more frequently in RTB, but wins better in HB
- Possible way to boost participation rate in CDB: turn off our buying on Rubicon and Appnexus

### CDB: Winning rate evolution per price band



## WebAds – Linkiesta.it



The first data prove that with CDB, Criteo pays what it bids: avg Bid display = avg CPM





What's next ???

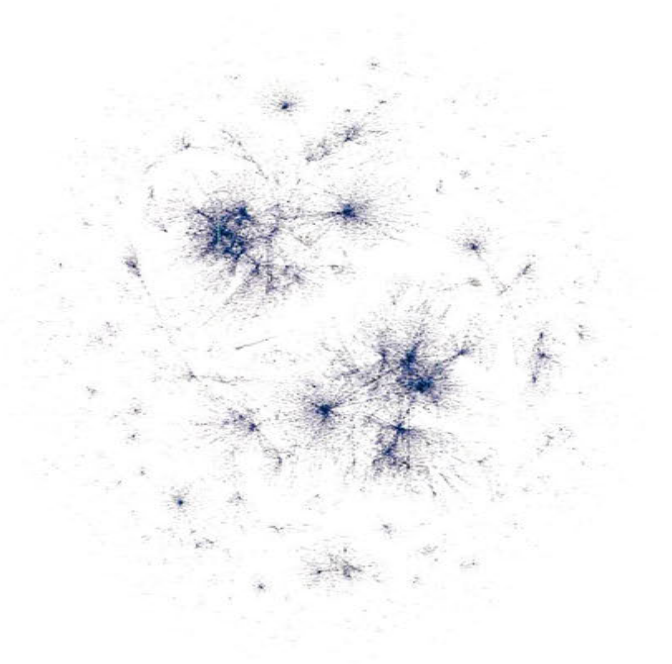


## Criteo Direct Bidder Roadmap

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## The publisher graph

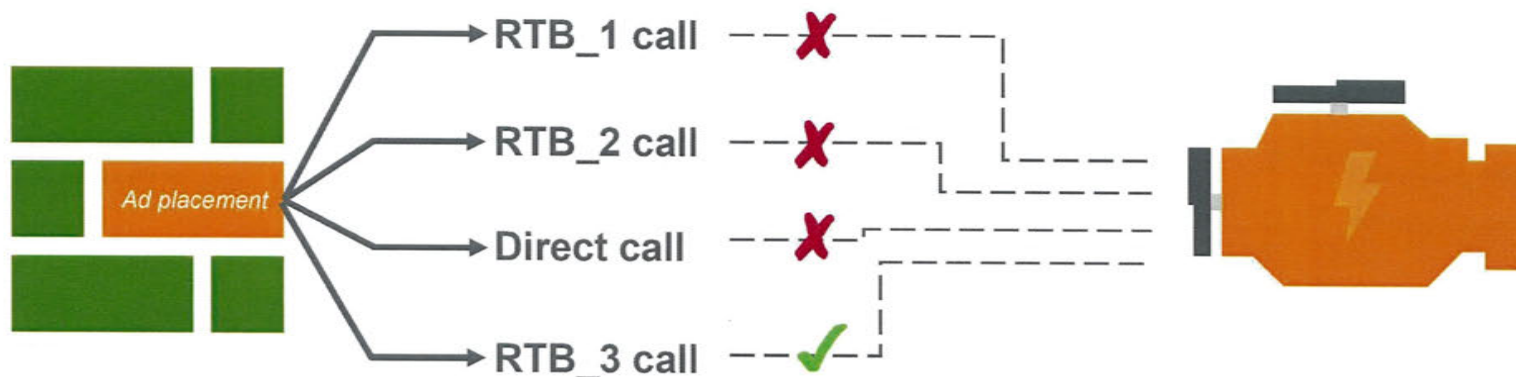


We are building a graph based on users coevents and computed offline, that enables to identify requests leading to the same display

The goal is to be able to select the best channel to buy our displays in real time

## Publisher Bidding

Real time purchasing decision & bidding strategy based on placement x channel set-up



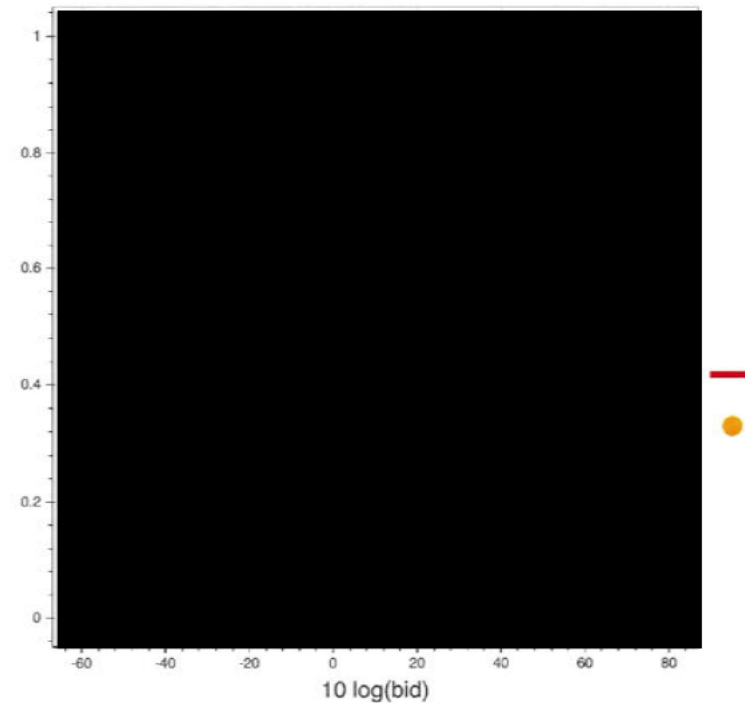
**Real time decision on which channel to bid & what bid to place based on placement performance ; channel's incrementality & channel's auction set-up**

- >Constant monitoring of **channels incrementality** one vs the other
- >**Adapted bidding** to each publisher setting (dynamic floors) x RTB platform auction dynamics
- 3 >**Ad placement viewability** included as a performance driver

## Non 2nd price auctions

### Predicting the winrate:

- What's the minimum price we need to bid to win this opportunity?
- Since we're paying 1<sup>st</sup> price on Header-bidding, bidding just enough to win the auction would significantly our Yield.
- AX teams are currently working on this project in parallel of the Publisher graph





# Appendix

## Publisher questionnaire

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1. Which wrapper are you using
2. Which other bidders are participating?
3. Which currency do you request bidders to bid in? Which currency do you require for billing? (NOTE: today we need to bid and pay in the same currency)
4. Which ad server are you using?
5. Are Enhanced Dynamic Allocation or First Look enabled?
6. Which is the granularity of the line items?
7. Which is the minimum floor for the bidder?
8. Which priority those line items have in the ad server?
9. Which formats do you need?
10. How do you create line items?
11. Would it be possible to have write access to a DFP order, via a gmail account?